

EXOTIC BELIEFS MAY BE SUBSTITUTES FOR RELIGIOUS BELIEFS

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Summary.—The percentages of items of the Personal Philosophy Inventories that reflect either traditional religious or exotic (alien intelligence, reincarnation) beliefs were compared for 504 female and 343 male university students as a function of church attendance; the data were collected over a 10-yr. period. A statistically significant interaction between the two clusters of beliefs and church attendance suggested that exotic beliefs may substitute for religious beliefs. Years of university experience did not reduce the incidence of either type of belief while preteenage religious experiences enhanced endorsement of both religious and exotic beliefs.

Beliefs that reflect omnipotent and eternal themes concerning one's personal universe have been hypothesized as cognitive mechanisms by which anxiety is reduced (3). Traditional religious beliefs have fulfilled this role. The increasing success of science and the education of the public appears to have diminished the affinity for traditional religious beliefs. If they function as a means of reducing existential anxiety, then a compensatory increase in exotic concepts such as interest in time travel, mystical forces and extraterrestrial intelligence should occur. We hypothesized that people who attend church regularly should endorse more traditional but fewer exotic beliefs while those who do not attend church regularly should demonstrate the opposite effect.

To test this hypothesis, the Personal Philosophy Inventories (4) of 847 university students, collected over a 10-yr. period, were obtained from our primary data base. There were 504 women and 343 men; their mean age was 25 yr. ($SD = 8$) and the range was 16 to 58 yr. The percentages of affirmative answers (or their equivalents for negative answers) for two belief scales were calculated. The religious belief scale was composed of 11 items, e.g., "I believe there is a God," "God has healed one of my family on at least one occasion," "I believe in the second coming of Christ," while the exotic belief scale was composed of nine items, e.g., "Telepathy is a real phenomenon," "Although I am not sure, there is a good possibility that I have lived a previous life," and "Alien intelligence is probably responsible for UFOs."

The reliability coefficients for the Religious and Exotic Belief scales were 0.62 and 0.57, respectively; the mean point biserial correlations

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between each item and the cluster average were 0.53 (0.26 to 0.60) and 0.47 (0.33 to 0.60), respectively. The correlation between the two clusters was not statistically significant (0.10, $p > .05$). Age was not significantly correlated with either religious beliefs (-0.03) or with exotic beliefs (0.03).

A multivariate analysis of variance was completed as a function of sex, frequency of church attendance (less than once per month, one per month most months, and once per week), and the two belief clusters (repeated measure). There was a significant difference between beliefs as a function of church attendance ($F_{2,841} = 35.89$, $p < .001$) but neither interaction of sex ($F_{1,841} = 0.06$, $p > .05$) or for sex by church attendance ($F_{2,841} = 0.84$, $p > .05$). Although there was no significant difference between the two belief clusters ($F_{1,841} = 1.18$, $p > .05$), there was a statistically significant interaction of church attendance by belief ($F_{2,841} = 52.55$, $p < .001$). The other two interactions were not significant.

The source of the interaction for church attendance by belief was due to the larger percentage of exotic beliefs relative to religious beliefs endorsed by those who rarely attend church relative to the larger percentage of religious beliefs rather than exotic beliefs for those who attend church at least once per week. The means and standard deviations for the clusters of religious and exotic beliefs (mean percent with standard deviations in parenthesis), respectively, were: attendance less than once per month ($n = 504$): 38% (17%) and 47% (22%), at least once per month ($n = 92$): 51% (16%) and 50% (23%), and once per week ($n = 251$): 58% (16%) and 45% (18%).

Paired t tests indicated that the exotic beliefs cluster was significantly higher than the religious beliefs cluster for Group 1 ($t = 7.59$, $p < .001$) while the religious beliefs cluster was significantly higher than the exotic beliefs cluster for Group 3 ($t = 7.87$, $p < .001$); however, there was no significant difference between the two clusters for Group 2 ($t = 0.59$, $p > .05$). To check internal consistency, a χ^2 of 71.15 ($df = 2$, $p < .001$; $\phi = 0.26$) was completed between affirmative answers to the item, "I believe there is a God," and the three church attendance groups; the percentages of yes responses were 76%, 96%, and 98%, respectively; stated alternatively, only 6% of the populations reported no to the item and attended church while 46% of those who reported yes attended church.

To discern if years of university education affected either the percentage of beliefs or their interaction with church attendance, a multivariate analysis of variance was completed as a function of university year: 1: $n = 400$, 2: $n = 154$, 3 and 4: $n = 63$, and church attendance. Years of education did not alter the numbers of beliefs endorsed or the specific cluster of beliefs endorsed. To assess whether the early ontogenetic occurrence of a religious experience affected beliefs differentially, a multivariate analysis of variance was completed as a function of sex, the two belief clusters, and whether or

not the person reported yes or no to the item, "My first religious experience occurred before I was a teenager." The analyses indicated that those who reported yes ($n = 164$) to this item displayed significantly higher scores ($F_{1,864} = 59.04$, $p < .001$) for both beliefs (religious beliefs = $52\% \pm 18\%$ and exotic beliefs $55\% \pm 20\%$) relative to those who did not ($43\% \pm 19\%$ and $45\% \pm 21\%$, respectively). There were no significant sex effects, type of belief differences or interactions.

These results strongly suggest that exotic beliefs may serve as substitutes for more traditional religious concepts. Immortality and a source of omnipotence, two major themes of religious beliefs, are conceptually similar to reincarnation and superior alien intelligence; functionally, they might reduce death anxiety (3). The absence of an absolute decrease in belief scores despite university education suggests that the acquisition of postsecondary, technical detail does not change this core of beliefs. As would be predicted by sensory-limbic hyperconnectionism (1) and temporal lobe lability (2) hypotheses, early onset religious experiences appear to promote or to enhance *both* exotic and religious beliefs.

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